UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,838	07/03/2003	Yuji Katayama	02008.116001	7179

22511   7590   07/02/2007

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ART UNIT	PAPER NUMBER
2174	

MAIL DATE	DELIVERY MODE
07/02/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07).

		Application No.	Applicant(s)
		10/612,838	KATAYAMA ET AL.
	Office Action Summary	Examiner	Art Unit	
		Peng Ke	2174	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
 Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 7/3/03

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☒ All   b)☐ Some * c)☐ None of:

       1.☒ Certified copies of the priority documents have been received.

       2.☒ Certified copies of the priority documents have been received in Application No. _____.

       3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date <u>7/27/06 5/10/03, 7/03/2003</u>.

4) ☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The text of those sections of Title 35, U.S. Code not included in this action can be

found in a prior Office action.

As set forth in MPEP 2106 (II) (A):

The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." State Street, 149 F.3d at 1373, 47 USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (Brenner v. Manson, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96); In re Ziegler, 992, F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)). Accordingly, a complete disclosure should contain some indication of the practical application for the claimed invention, i.e., why the applicant believes the claimed invention is useful.

Apart from the utility requirement of 35 U.S.C. 101, usefulness under the patent eligibility standard requires significant functionality to be present to satisfy the useful result aspect of the practical application requirement. See Arrhythmia, 958 F.2d at 1057, 22 USPQ2d at 1036. Merely claiming nonfunctional descriptive material stored in a computer-readable medium does not make the invention eligible for patenting. For example, a claim directed to a word processing file stored on a disk may satisfy the utility requirement of 35 U.S.C. 101 since the information stored may have some "real world" value. However, the mere fact that the claim may satisfy the utility requirement of 35 U.S.C. 101 does not mean that a useful result is achieved under the practical application requirement. The claimed invention as a whole must produce a "useful, concrete and tangible" result to have a practical application

As set forth in MPEP 2106 (IV) (B) (1):

Claims to computer-related inventions that are clearly nonstatutory fall into the same general categories as nonstatutory claims in other arts, namely natural phenomena such as magnetism, and abstract ideas or laws of nature which constitute "descriptive material." Abstract ideas, Warmerdam, 33 F.3d at 1360, 31 USPQ2d at 1759, or the mere manipulation of abstract ideas, Schrader, 22 F.3d at 292-93, 30 USPQ2d at 1457-58, are not patentable. Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data. Both types of "descriptive material" are nonstatutory when claimed as descriptive material per se. Warmerdam, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare In re Lowry, 32

F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and Warmerdam, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

As set forth in MPEP 2106 (IV)(B)(1)(a):

Similarly, computer programs claimed as computer listings *per se*, *i.e.*, the descriptions or expressions of the programs, are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. Accordingly, it is important to distinguish claims that define descriptive material *per se from claims* that define statutory inventions.

Products may be either machines, manufactures, or compositions of matter.
A *machine is* "a concrete thing, consisting of parts or of certain devices and combinations of devices. *Burr v. Duryee. 68* U.S. (1 Wall.) *531, 570 (1863).*
If a claim defines a useful machine or manufacture by identifying the physical structure of the machine or manufacture in terms of its hardware or hardware and software combination, it defines a statutory product. See, e.g., *Lowry, 32 F.3d* at *1583, 32* USPQ2d at *1034-35; Warmerdarn,* 33 F.3d at 1361-62, 31 USPQ2d at 1760.
Office personnel must treat each claim as a whole. The mere fact that a hardware element is recited in a claim does not necessarily limit the claim to a specific machine or manufacture. Cf. *In re Iwahashi, 888* F.2d 1370, 1374-75, 12 USPQ2d 1908, *191 1*-12 (Fed. Cir. 1989), cited with approval in *Alappat,* 33 F.3d at 1544 n.24, 31 USPQ2d at 1558 n_24.

The claimed invention of claims 1-15, 17-18, and 21 is directed to non-statutory subject matter.

Claims 1-15, 17, and 18 claim "a problem solving support system" where all the sections within it are software components. Software component are not embodied in computer-readable media are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer. See, e.g., Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760.

Claim 21 claims "a problem solving support program." Software component are not embodied in computer-readable media are descriptive material per se and are not

statutory because they are not capable of causing functional change in the computer. See,

e.g., Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760.

Claim Rejections - 35 USC § 112

Claims 10 and 23 recite the limitation "the attribute of the user" in the claim.

There is insufficient antecedent basis for this limitation in the claims.

Examiner interprets "the attribute of the user" as "user input."

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claims 6-18, 20 and 22-24 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Chow US Patent 6,600,498, in view of Holt US Patent 5,771,378.

As per claim 6, Chow teaches a problem solving support system for

supporting problem solving for electronic apparatus users based, on words input

by the users on how to use the apparatuses, the system comprising:

execution program group storage files that include an execution program

which executes the specified function of said electronic apparatuses for solving

the problems by matching index word character strings that specify the function;

(see Chow; column 5, lines 25-30; The program compares and match the input "Di" with recognized command input)

a dictionary database including element words which describe concepts of the functions which the index word character strings show, corresponding to the index word character strings; (see Chow; column 9, lines 55-70; Listing of recognized input, recognizable local printers, network printers, local network, attaches function... is a dictionary database.)

a search processing section which searches for the input word using the element word stored in said dictionary database when the input word is input, (see Chow, column 5, lines 20-25; The program uses the user input of "Di" to compare against the command dictionary databases) and

based on the search, extracts the index word character strings which correspond to the element word included in the input word from said dictionary database, and displays the extracted index word character string; and (see Chow; column 7, lines 30-60, column 8, lines 1-22; The program display the resulting commands on the window, the resulting commands are determined based on the comparison between the character input by the user with the character of the index command; see Chow column 5, lines 30-50)

an execution processing section which executes the execution program

which is stored in said execution program group storage files and which

corresponds to the index word character string to be executed when the user

inputs an execution command for the index word character string displayed by

said search processing section, wherein said search processing

section, said execution processing section, (see Chow; column 7, lines 25-35;

The program uses forefront word matching and marched the user input of "Di"

with command "dir" and "dir c*.*/s" and then if the user select the command, he

can execute the selected associated command)

However, Chow fail to teach said execution program group storage file are

installed in a problem solving support terminal and said dictionary database is

removable from the problem solving support terminal.

Holt teaches said execution program group storage file are installed in a

problem solving support terminal and said dictionary database is removable from

the problem solving support terminal.(see Holt, column 7, lines 50-65, Since Holt

gave the user the option of the using the related terms use can choose not to use

the related terms and thus create the same effect as removing dictionary

database from the problem solving support terminal.)

It would have been obvious to an artisan at the time of the invention to include

Holt's teaching with method of Chow in order to provide user of the option of limiting

the searching field.

As per claim 7, Chow and Holt teach the problem solving support system as claimed in claim 6.

Holt teaches wherein said dictionary database comprises:

a merge dictionary which stores synonyms indicating concepts similar to the element word, which concepts corresponding to the element word; (see Holt; column 7, lines 50-65; The program gets the morphological variation of a word from a dictionary and the synonyms from thesaurus, then conducts a search based on these variation and synonyms) and

an index word database including the element word related to the index word character strings, and said search processing section comprises:

an element word extract section which searches for the input word using the element word and the synonyms when the input word is input, based on the search, and extracts the element word included in the input word and element word corresponding to the synonyms included in the input word which is stored in said merge dictionary; (see Holt; column 7, lines 50-65; The program gets the morphological variation of a word from a dictionary and the synonyms from thesaurus, then conducts a search based on these variation and synonyms ; see Holt; column 5, lines 5-20; The program match terms in the search request with terms in the index) and

Chow teaches an index word extract section which extracts the index word

character strings corresponding to the element word extracted by said element

word extract section from said index word database and displays the extracted

index word character strings. (see Chow; column 7, lines 30-60, column 8, lines 1-22;

The program display the resulting commands on the window, the resulting commands are

determined based on the comparison between the character input by the user with the

character of the index command; see Chow column 5, lines 30-50)

As per claim 8, Chow teaches a problem solving support system for

supporting problem solving for electronic apparatus users based on words input

by the users on how to use the apparatuses, the system comprising:

execution program group storage files that include an execution program

which executes a specified function of said electronic apparatuses for solving the

problems by matching index word character strings that specify the function; (see

Chow; column 5, lines 25-30; The program compares and match the input "Di"

with recognized command input)

a dictionary database including element words which indicate concepts of

the functions which the index word character strings, corresponding to the index

word character strings; (see Chow; column 9, lines 55-70; Listing of recognized

input, recognizable local printers, network printers, local network, attaches

function... is a dictionary database.)

a search processing section which searches for the input word using the element word stored in said dictionary database when the input word is input, and extracts, (see Chow, column 5, lines 20-25; The program uses the user input of "Di" to compare against the command dictionary databases)

based on the search, the index word character strings which correspond to the element word included in the input word from said dictionary database, and displays the extracted index word character string; (see Chow; column 7, lines 30-60, column 8, lines 1-22; The program display the resulting commands on the window, the resulting commands are determined based on the comparison between the character input by the user with the character of the index command; see Chow column 5, lines 30-50) and

an execution processing section which executes the execution program which is stored in said execution program group storage files and which corresponds to the index word character strings to be executed when the user inputs an execution command for the index word character string displayed by said search processing section, (see Chow; column 7, lines 25-35; The program uses forefront word matching and marched the user input of "Di" with command "dir" and "dir c*.*/s" and then if the user select the command, he can execute the selected associated command) wherein

However, Chow failes to teach said search processing section, said execution processing section, and said execution program group storage file are installed in a problem solving support terminal and said dictionary database is installed in a server connected to the problem solving support terminal via a network.

Holt teaches a search processing section, an execution processing section, and an execution program group storage file are installed in a problem solving support terminal and an dictionary database are installed in a server connected to the problem solving support terminal via a network. (see Holt column 3, lines 45-65; IBM-compatible personal computer is the problem solving support terminal, SA's and SR's are execution processing section, they are all within the network of servers)

It would have been obvious to an artisan at the time of the invention to include Holt's teaching with method of Chow in order to allow user to access the information remotely through a network.

As per claim 9, Chow and Holt teach the problem solving support system as claimed in claim 8, wherein said dictionary database comprises:

Holt further teaches a merge dictionary which stores synonyms indicating concepts similar to the element word, which concepts corresponding to the

element word; (see Holt; column 7, lines 50-65; The program gets the

morphological variation of a word from a dictionary and the synonyms from

thesaurus, then conducts a search based on these variation and synonyms)and

an index word database including the element word related to the index

word character strings, and said search processing section comprises:

an element word extract section which searches for the input word using

the element word and the synonyms when the input word is input, and extracts,

based on the search, the element word included in the input word and element

word corresponding to the synonyms included in the input word which is stored in

said merge dictionary; (see Holt; column 7, lines 50-65; The program gets the

morphological variation of a word from a dictionary and the synonyms from

thesaurus, then conducts a search based on these variation and synonyms ; see

Holt; column 5, lines 5-20; The program match terms in the search request with

terms in the index) and

Chow further teaches an index word extract section which extracts the

index word character strings corresponding to the element word extracted by

said element word extract section from said index word database and displays

the extracted index word character strings. (see Chow; column 7, lines 30-60,

column 8, lines 1-22; The program display the resulting commands on the window, the

resulting commands are determined based on the comparison between the character input

by the user with the character of the index command; see Chow column 5, lines 30-50)

As per claim 10, Chow and Holt teach the problem solving support system as claimed in claim 6. Holt further teaches wherein said dictionary database comprises the element words which are different according to the input of the user. (see Holt; column 7, lines 50-65; The program gets the morphological variation of a word from a dictionary and the synonyms from thesaurus, then conducts a search based on these variation and synonyms ; see Holt; column 5, lines 5-20; The program match terms in the search request with terms in the index)

As per claim 11, Chow and Holt teach the problem solving support system as claimed in claim 6. Holt further teaches comprising a non-corresponding input processing section which collects the input words which have been judged not to include the element words by said search processing section in order of frequency of appearance and outputs the input words appearing more often than a predetermined frequency. (see Holt, column 12, lines 1-55; Holt calculate the rank of the document based on the frequency the higher the frequency the higher the rank and the it uses a predetermined frequency maxtfi in its cacluation)

As per claim 12, Chow and Holt teach the problem solving support system as claimed in claim 11, Holt further teaches wherein said non-corresponding

input processing section outputs the input words appearing more often than the predetermined frequency corresponding to the attributes of the user and outputs them. (see Hot, column 13, lines 1-15; The search result has to beat the rank of the 25 in order to be outputted.)

As per claim 13, Chow and Holt teach the problem solving support system as claimed in claim 11. Chow further teaches wherein said non-corresponding input processing section stores index word character strings which specify functions immediately selected by the users corresponding to the input words and registers input words corresponding to the index word character strings more often than a predetermined frequency as element words of the index word character strings in said dictionary database when the input words are judged not to include the element words. (see Chow, column 11, lines 55-65; Chow teaches a means for attaching a software program function to a representation of an input comprises a means for attaching a software program function to a graphical representation of an input. It also teaches means comprises a means for attaching a function to a software program function to a character presentation of an input)

As per claim 14, Chow teaches a problem solving support system for supporting problem solving for electronic apparatus users based on words input by the users on how to use the apparatuses, the system comprising:

execution program group storage files that include an execution program

which executes the specified function of said electronic apparatuses for solving

the problems by matching index word character strings that specify the function;

(see Chow; column 5, lines 25-30; The program compares and match the input

"Di" with recognized command input)

a dictionary database including element words which describe the

concepts of the functions which the index word character strings show, the

concepts corresponding to the index word character strings; (see Chow; column

9, lines 55-70; Listing of recognized input, recognizable local printers, network

printers, local network, attaches function... is a dictionary database.)

a search processing section which searches for the input word using the

element word stored in said dictionary database when the input word is input,

(see Chow, column 5, lines 20-25; The program uses the user input of "Di" to

compare against the command dictionary databases) and

based on the search, extracts the index word character strings which

corresponds to the element word included in the input word from said dictionary

database, and displays the extracted index word character string; (see Chow;

column 7, lines 30-60, column 8, lines 1-22; The program display the resulting

commands on the window, the resulting commands are determined based on the

comparison between the character input by the user with the character of the index

command; see Chow column 5, lines 30-50)

an execution processing section which remotely controls the electronic

apparatuses through the execution of the execution program which is stored in

said execution program group storage files and which corresponds to the index

word character string to be executed when the user inputs an execution

command; (see Chow; column 7, lines 25-35; The program uses forefront word

matching and marched the user input of "Di" with command "dir" and "dir c*.*/s"

and then if the user select the command, he can execute the selected associated

command) and

Chow teaches the index word character strings specifying the new

function, and the element word related to the index word character strings,

corresponds to the obtained index word character strings, stores the obtained

execution program in said execution program group storage file, and stores the

obtained element words in said dictionary database (see Chow, column 11, lines

55-65; Chow teaches a means for attaching a software program function to a

representation of an input comprises a means for attaching a software program

function to a graphical representation of an input. It also teaches means

comprises a means for attaching a function to a software program function to a

character presentation of an input; the means are parts of the computer memory)

Chow fails to teach an update control section which obtains an execution program for executing the new functions of a new electronic apparatus which is remotely operated by said execution processing section.

Holt teaches an update control section which obtains an execution program for executing the new functions of a new electronic apparatus which is remotely operated by said execution processing section. (see Holt column 3, lines 45-65; IBM-compatible personal computer is the problem solving support terminal, SA's and SR's are execution processing section, they are all within the network of servers; These remote SA's and SR's update the related result to the user selected terms)

It would have been obvious to an artisan at the time of the invention to include Holt's teaching with method of Chow in order to allow user to access the information that are remotely located on the network.

As per claim 15, which is dependent on claim 14, it is of the same scope as claim 9. Supra.

As per claim 16, Chow and Holt teach the problem solving support system as claimed in claim 14. Chow further teaches wherein at least either the

execution program for the new electronic apparatus or the element correspond to the index word character corresponding to the new electronic apparatus, stored in a removable record medium.   (see Chow, column 11, lines 23-33; A DVD, CD, Tape, Floppy disk, and other retrieval medium are removable record medium)

As per claim 17, Chow teaches a problem solving support system for supporting problem solving for electronic apparatus users based on words input by the users on how to use the apparatuses, the system comprising:

execution program group storage files that include an execution program which executes the specified function of said electronic apparatuses for solving the problems by matching index word character strings that specify the function; (see Chow; column 5, lines 25-30; The program compares and match the input "Di" with recognized command input)

a dictionary database including element words which includes element words indicating the concept of the functions which the index word character Strings show and the importance of the functions specified by the index word character strings; (see Chow; column 9, lines 55-70; Listing of recognized input, recognizable local printers, network printers, local network, attaches function... is a dictionary database.)

a search processing section which searches for the input word using the

element word stored in said dictionary database, extracts the index word

character strings which correspond to said element word included in the input

word based on the search, (see Chow, column 5, lines 20-25; The program uses

the user input of "Di" to compare against the command dictionary databases)

an execution processing section which executes the execution program

which is stored in the execution program group storage files and which

corresponds to said index word character string to be executed (see Chow;

column 7, lines 25-35; The program uses forefront word matching and marched

the user input of "Di" with command "dir" and "dir c*.*/s" and then if the user

select the command, he can execute the selected associated command) when

the user inputs an execution command for the index word character strings

displayed by said search processing section. (see Chow; column 7, lines 30-60,

column 8, lines 1-22; The program display the resulting commands on the window, the

resulting commands are determined based on the comparison between the character input

by the user with the character of the index command; see Chow column 5, lines 30-50)

However, Chow fails teaches displays extracted the index word character

strings with an order of high importance when the input word is input.

Holt teaches displays extracted the index word character strings with an

order of high importance when the input word is input. (see Holt. Column 12,

lines 50-55; Holt sort the search result based on ranks, and ranks are indication

of the importance)

It would have been obvious to an artisan at the time of the invention to include

Holt's teaching with method of Chow in order to allow user to display results based on

the importance.

As per claim 18, which is dependent on claim 17, it is of the same scope

as claim 9. Supra.

As per claim 20, Chow teaches a problem solving support method for

supporting problem solving for electronic apparatus users based on words input

by the users on how to use the apparatuses, the method comprising steps of:

an execution program group control step for controlling an execution

program for executing the problem-solving functions which executes the

specified function by matching index word character strings that specify the

functions of the electronic apparatuses; (see Chow; column 5, lines 25-30; The

program compares and match the input "Di" with recognized command input)

a dictionary control step for controlling element words corresponding to the index word character strings and indicating the concepts of the functions which the index word character strings show; (see Chow; column 9, lines 55-70; Listing of recognized input, recognizable local printers, network printers, local network, attaches function... is a dictionary database.)

a search processing step for searching for the input word using the element word stored in the dictionary database controlled by said dictionary control step, extracting the index word character strings which correspond to the element word included in the input word based on the search, (see Chow, column 5, lines 20-25; The program uses the user input of "Di" to compare against the command dictionary databases) and displaying the extracted index word character strings when the input word is input; (see Chow; column 7, lines 30-60, column 8, lines 1-22; The program display the resulting commands on the window, the resulting commands are determined based on the comparison between the character input by the user with the character of the index command; see Chow column 5, lines 30-50)

an execution processing step for remotely controlling the electronic apparatuses by executing the execution program corresponding to the index word character string to be executed in the execution program group control step

when the user inputs an execution command for the index word character strings

displayed in said search processing step; (see Chow; column 7, lines 25-35; The

program uses forefront word matching and marched the user input of "Di" with

command "dir" and "dir c*.*/s" and then if the user select the command, he can

execute the selected associated command) and

the index word character strings specifying the new function, and the

element words related to the index word character strings, by matching the

obtained index word character strings, controlling the obtained execution

program in said execution program group control step, and controls the obtained

element words in said dictionary control step. (see Chow, column 11, lines 55-65;

Chow teaches a means for attaching a software program function to a

representation of an input comprises a means for attaching a software program

function to a graphical representation of an input. It also teaches means

comprises a means for attaching a function to a software program function to a

character presentation of an input; the means are parts of the computer memory)

However, Chow fails to teach an update control step for obtaining an

execution program for executing the new functions of a new electronic apparatus

which is remotely operated during said execution processing step.

Holt teaches an update control step for obtaining an execution program for executing the new functions of a new electronic apparatus which is remotely operated during said execution processing step. (see Holt column 3, lines 45-65; IBM-compatible personal computer is the problem solving support terminal, SA's and SR's are execution processing section, they are all within the network of servers; These remote SA's and SR's update the related result to the user selected terms)

It would have been obvious to an artisan at the time of the invention to include Holt's teaching with method of Chow in order to allow user to access the information that are remotely located on the network.

As per claim 22, Chow teaches a medium storing a problem solving support program for a problem solving support system for supporting problem solving for electronic apparatus users based on words input by the users on how to use the apparatus, the causes the problem solving support system to program realize:

An execution program group control function that controls an execution program for executing the problem-solving functions by matching index word character strings that specify the functions of the electronic apparatuses; (see Chow; column 5, lines 25-30; The program compares and match the input "Di"

with recognized command input)

a dictionary control function which controls element words indicating the

concepts of the functions which the index word character strings show; (see

Chow; column 9, lines 55-70; Listing of recognized input, recognizable local

printers, network printers, local network, attaches function... is a dictionary

database.)

a search processing function which searches for the input word using the

element word controlled by the dictionary control function, extracts the index

word character strings which correspond to the element word included in the

input word based on the search, (see Chow, column 5, lines 20-25; The program

uses the user input of "Di" to compare against the command dictionary

databases) and displays the extracted index word character strings when the

input word is input; ; (see Chow; column 7, lines 30-60, column 8, lines 1-22; The

program display the resulting commands on the window, the resulting commands are

determined based on the comparison between the character input by the user with the

character of the index command; see Chow column 5, lines 30-50)

an execution processing function which remotely controls the electronic

apparatus by executing the execution program which corresponds to the index

word character strings to be executed and is controlled by the execution program

group control function when the user inputs an execution command for the index

word character strings displayed by the search processing function; (see Chow;

column 7, lines 25-35; The program uses forefront word matching and marched

the user input of "Di" with command "dir" and "dir c*.*/s" and then if the user

select the command, he can execute the selected associated command) and

the index word character strings specifying the new functions, and the

element words related to the index word character strings, corresponds to the

obtained index word character strings, makes the execution program group

control function to control the obtained execution program, and makes the

dictionary control function to control the obtained element words. (see Chow,

column 11, lines 55-65; Chow teaches a means for attaching a software program

function to a representation of an input comprises a means for attaching a

software program function to a graphical representation of an input. It also

teaches means comprises a means for attaching a function to a software

program function to a character presentation of an input; the means are parts of

the computer memory)

However, Chow fails to teach an update control function which obtains an

execution program for executing the new functions of a new electronic apparatus

which is remotely operated by the execution processing function.

Holt teaches an update control function which obtains an execution

program for executing the new functions of a new electronic apparatus which is

remotely operated by the execution processing function. (see Holt column 3,

lines 45-65; IBM-compatible personal computer is the problem solving support

terminal, SA's and SR's are execution processing section, they are all within the

network of servers; These remote SA's and SR's update the related result to the

user selected terms)

It would have been obvious to an artisan at the time of the invention to include

Holt's teaching with method of Chow in order to allow user to access the information that

are remotely located on the network.

As per claim 23, which is dependent on claim 8, it is of the same scope as

claim 6. Supra.

As per claim 24, which is dependent on claim 8, it is of the same scope as

claim 11. Supra.

Claims 1-5, 19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Chow US Patent 6,600,498 in view of Kato US Patent 6,295,052 further in view

of Holt US Patent 5,771,378.

As per claim 1, Chow teaches a problem solving support system for

supporting problem solving for electronic apparatus users based on words input

by the users on how to use the apparatuses, the system comprising:

execution program group storage files that include an execution program

which executes a specified function of the electronic apparatuses for solving the

problems by matching index word character strings that specify the function; (see

Chow; column 5, lines 25-30; The program compares and match the input "Di"

with recognized command input)

a dictionary database which includes element words corresponding to the

index word character strings and indicating the concepts of the functions that the

index word character strings show and character strings corresponding to the

index word character strings and showing the readings of the index word

character strings; (see Chow; column 9, lines 55-70; Listing of recognized input,

recognizable local printers, network printers, local network, attaches function... is

a dictionary database.)

a forefront word matching processing section which searches said

dictionary database based on the input word, extracts the index word character

strings that match the input word with the first character of the character string

(see Chow, column 5, lines 20-25; The program uses forefront word matching

and marched the user input of "Di" with command "dir" and "dir c*.*/s") showing

the reading of the index word character string and displays the extracted index

word character strings when the input word judgment section judges that the

input word and that the number of characters of the input word is within a

predetermined number; (see Chow; column 7, lines 30-60, column 8, lines 1-22; The

program display the resulting commands on the window, the resulting commands are

determined based on the comparison between the character input by the user with the

character of the index command; see Chow column 5, lines 30-50)

a search processing section which searches for the input word using the

element word stored in said dictionary database, (see Chow, column 5, lines 20-

25; The program uses the user input of "Di" to compare against the command

dictionary databases) extracts the index word character strings which correspond

to the element word included in the input word based on the search, and displays

the extracted index word character strings. (see Chow; column 7, lines 30-60,

column 8, lines 1-22; The program display the resulting commands on the window, the

resulting commands are determined based on the comparison between the character input

by the user with the character of the index command; see Chow column 5, lines 30-50)

an execution processing section which executes the execution program

which is stored in said execution program group storage files and which

corresponds to the index word character strings to be executed when the user

inputs an execution command for the index word character string displayed by

said forefront word matching processing section or said search processing

section. (see Chow; column 7, lines 25-35; The program uses forefront word

matching and marched the user input of "Di" with command "dir" and "dir c*.*/s"

and then if the user select the command, he can execute the selected associated

command)

However, Chow does not teach determine when the input word judgment

section judges that the input word is neither kana nor Roman alphabetic.

Kato teaches determine when the input word judgment section judges that

the input word is neither kana nor Roman alphabetic. (see Kato, column 8, lines

63-column 9, lines 5; Determining key selection operation of three types is

determining selection in Kana, Kanji, and roman alphabet)

It would have been obvious to an artisan at the time of the invention to include

Kato's teaching with method of Chow in order to allow user to input different language

with only one input device.

However, Chow and Kato teach the number of characters of the input

word is over a predetermined number.

Holt teaches that the number of characters of the input word is over or

within a predetermined number. (see Holt, column 7, lines 50-65, Holt checks to

teach if the input characters are within the predetermined numerical level.)

It would have been obvious to an artisan at the time of the invention to include

Holt's teaching with method of Chow and Kato in order to allow user to perform search

on command that is in a form of phrase.

As per claim 2, Chow, Kato and Holt teach the problem solving support

system as claimed in claim 1.

Holt further wherein said dictionary database comprises:

a merge dictionary which stores synonyms indicating concepts similar to

the element word, which concepts corresponding to the element word; (see Holt;

column 7, lines 50-65; The program gets the morphological variation of a word

from a dictionary and the synonyms from thesaurus, then conducts a search

based on these variation and synonyms)

an index word database including the element word corresponding to the

index word character strings and character strings indicating the readings of the

index word character strings by corresponding to the index word character

strings, (see Holt; column 7, lines 50-65; The program gets the morphological

variation of a word from a dictionary and the synonyms from thesaurus, then

conducts a search based on these variation and synonyms ; see Holt; column 5,

lines 5-20; The program match terms in the search request with terms in the

index) and

said search processing section comprises:

an element word extract section which searches for the input word using

the element word and synonyms stored in said merge dictionary (see Holt;

column 7, lines 50-65; The program gets the morphological variation of a word

from a dictionary and the synonyms from thesaurus)

when said the number of characters of the input word is over a

predetermined number, (see Holt, column 7, lines 50-65, Holt checks to teach if

the input characters are within the predetermined numerical level)

Chow teaches said element word extract section extracts, based on a

result of the search, the element word included in the input word and the element

word corresponding to the synonyms included in the input word which is stored in

said merge dictionary; (see Chow, column 5, lines 30-50; Chow compared and

recognized command and files that has meaning or association with the word

directory, diskcopy display.sys) and

Chow teaches an index word extract section which extracts the index word

character strings which correspond to the element word from said index word

database and displays the extracted index word character strings. (see Chow;

column 7, lines 30-60, column 8, lines 1-22; The program display the resulting

commands on the window, the resulting commands are determined based on the

comparison between the character input by the user with the character of the index

command; see Chow column 5, lines 30-50)

Kato teaches when said input word judgment section judges that the input

word is neither kana nor Roman alphabetic. (see Kato, column 8, lines 63-

column 9, lines 5; Determining key selection operation of three types is

determining selection in Kana, Kanji, and roman alphabet)

As per claim 3, Chow, Kato and Holt teach the problem solving support

system as claimed in claim 1. Chow further teaches wherein said input word

judgment section accepts an input of the input word with a single input field. (see

Chow; column 6, lines 45-50; "type Input" window 108 is a input field)

As per claim 4, Chow, Kato and Holt teach the problem solving support

system as claimed in claim I. Chow wherein said input word judgment section

makes the judgment according to the input indicating that the input word is to

determined. (see Chow; column 7, lines 30-60, column 8, lines 1-22; The program

display the resulting commands on the window, the resulting commands are determined

based on the comparison between the character input by the user with the character of the

index command)

As per claim 5, Chow, Kato and Holt teach the problem solving support system as claimed in claim 1. Holt teaches wherein the predetermined number is variable. (see Holt, column 5, lines 30-35; Holt uses an ID or a variable to represents an uniquely assigned arbitrary number)

As per claim 19, Chow teaches a problem solving support method for supporting problem solving for electronic apparatus users based on words input by the users on how to use the apparatuses, the method comprising steps of:

an execution program group control step for controlling an execution program for executing the problem-solving functions which executes the specified function by matching index word character strings that specify the functions of the electronic apparatuses; (see Chow; column 5, lines 25-30; The program compares and match the input "Di" with recognized command input)

a dictionary control step for controlling element words indicating the concepts of the functions which the index word character strings show and character strings showing the readings of said index word character strings; ;(see Chow; column 9, lines 55-70; Listing of recognized input, recognizable local printers, network printers, local network, attaches function... is a dictionary database.)

a forefront word matching processing step for referring to said dictionary

control step based on the input word, extracts the index word character strings

that match the input word with the first character of the character string (see

Chow, column 5, lines 20-25; The program uses forefront word matching and

marched the user input of "Di" with command "dir" and "dir c*.*/s") showing the

reading of the index word character string and displays the extracted index word

character strings when the input word judgment section judges that the input

word and that the number of characters of the input word is within a

predetermined number; (see Chow; column 7, lines 30-60, column 8, lines 1-22; The

program display the resulting commands on the window, the resulting commands are

determined based on the comparison between the character input by the user with the

character of the index command; see Chow column 5, lines   30-50)

a search processing step for searching for the input word using the

element word stored in said dictionary database controlled by said dictionary

control step, (see Chow, column 5, lines 20-25; The program uses the user input

of "Di" to compare against the command dictionary databases) extracts the index

word character strings which correspond to the element word included in the

input word based on the search, and displays the extracted index word character

strings. (see Chow; column 7, lines 30-60, column 8, lines 1-22; The program display

the resulting commands on the window, the resulting commands are determined based on

the comparison between the character input by the user with the character of the index

command; see Chow column 5, lines 30-50)

an execution processing step for executing the execution program which

corresponds to the index word character strings to be executed and is controlled

under said execution program group control step when the user inputs an

execution command for the index word character strings displayed by said

forefront word matching processing step or said search processing step. (see

Chow; column 7, lines 25-35; The program uses forefront word matching and

marched the user input of "Di" with command "dir" and "dir c*.*/s" and then if the

user select the command, he can execute the selected associated command)

However, Chow does not teach determine when the input word judgment

section judges that the input word is neither kana nor Roman alphabetic.

Kato teaches determine when the input word judgment section judges that

the input word is neither kana nor Roman alphabetic. (see Kato, column 8, lines

63-column 9, lines 5; Determining key selection operation of three types is

determining selection in Kana, Kanji, and roman alphabet)

It would have been obvious to an artisan at the time of the invention to include

Kato's teaching with method of Chow in order to allow user to input different language

with only one input device.

However, Chow and Kato teach the number of characters of the input

word is over a predetermined number.

Holt teaches that the number of characters of the input word is over or within a predetermined number. (see Holt, column 7, lines 50-65, Holt checks to teach if the input characters are within the predetermined numerical level.)

It would have been obvious to an artisan at the time of the invention to include Holt's teaching with method of Chow and Kato in order to allow user to perform search on command that is in a form of phrase.

As per claim 21, Chow teaches a problem solving support program for a problem solving support system for supporting problem solving for electronic apparatus users based on words input by the users on how to use the apparatuses, the program causes the problem solving support system to realize:

an execution program group control function that controls an execution program for executing the problem-solving functions by matching index word character strings that specify the functions of the electronic apparatuses; ; (see Chow; column 5, lines 25-30; The program compares and match the input "Di" with recognized command input)

a dictionary control function which controls element words indicating the concepts of the functions which the index word character strings show and character strings showing the readings of the index word character strings; (see Chow; column 9, lines 55-70; Listing of recognized input, recognizable local printers, network printers, local network, attaches function... is a dictionary

database.)

a forefront word matching processing function which checks the dictionary control function based on the input word, extracts the index word character strings that match the input word with the first character of the character string (see Chow, column 5, lines 20-25; The program uses forefront word matching and marched the user input of "Di" with command "dir" and "dir c*.*/s") showing the reading of the index word character string and displays the extracted index word character strings; ; (see Chow; column 7, lines 30-60, column 8, lines 1-22; The program display the resulting commands on the window, the resulting commands are determined based on the comparison between the character input by the user with the character of the index command; see Chow column 5, lines 30-50)

a search processing function which searches for the input word using the element word controlled by the dictionary control function, extracts the index word character strings which correspond to the element word included in the input word based on the search, (see Chow, column 5, lines 20-25; The program uses the user input of "Di" to compare against the command dictionary databases) and displays the extracted index word character strings; (see Chow; column 7, lines 30-60, column 8, lines 1-22; The program display the resulting

commands on the window, the resulting commands are determined based on the

comparison between the character input by the user with the character of the index

command; see Chow column 5, lines 30-50) **and**

an execution processing function which executes said execution program

which corresponds to the index word character strings to be executed and is

controlled by the execution program group control function when the user inputs

an execution command for the index word character strings displayed by the

forefront word matching processing function or said search processing function.

(see Chow; column 7, lines 25-35; The program uses forefront word matching

and marched the user input of "Di" with command "dir" and "dir c*.*/s" and then if

the user select the command, he can execute the selected associated command)

However, Chow does not teach determine when the input word judgment section

judges that the input word is neither kana nor Roman alphabetic.

Kato teaches determine when the input word judgment section judges that

the input word is neither kana nor Roman alphabetic. (see Kato, column 8, lines

63-column 9, lines 5; Determining key selection operation of three types is

determining selection in Kana, Kanji, and roman alphabet)

It would have been obvious to an artisan at the time of the invention to include

Kato's teaching with method of Chow in order to allow user to input different language

with only one input device.

However, Chow and Kato teach the number of characters of the input word is over a predetermined number.

Holt teaches that the number of characters of the input word is over or within a predetermined number. (see Holt, column 7, lines 50-65, Holt checks to teach if the input characters are within the predetermined numerical level.)

It would have been obvious to an artisan at the time of the invention to include Holt's teaching with method of Chow and Kato in order to allow user to perform search on command that is in a form of phrase.

Conclusion

The following patents are cited to further show the state of the art with respect to Searching system:

Kleinberger US Patent 5,062,074: discloses an information retrieval system and method.

Salle US Patent: 5,530,869: discloses a system and method for locating and implementing commands without invoking a menu Hierarchy.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peng Ke whose telephone number is (571) 272-4062. The examiner can normally be reached on M-Th and Alternate Fridays 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kristine L. Kincaid can be reached on (571) 272-4063. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

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Patent Examiner Peng Ke

Art Unit 2174, TC 2100